

#3



SEQUENCE LISTING

<100> Bristol-Myers Squibb Company

<120> STEREOSELECTIVE REDUCTION OF SUBSTITUTED ACETOPHENONE

<130> CT-2657NP

<140> US 10/092,263

<141> 2002-03-06

<160> 8

<170> PatentIn version 3.0

<210> 1

<211> 15

<212> PRT

<213> Pichia methanolica

<220>

<221> MISC_FEATURE

<222> (1)..(2)

<223> wherein "X" equals any amino acid.

<400> 1

Xaa Xaa Tyr Arg Leu Val Arg Arg Gln Arg Ser Ala Asp Glu Gln
1 5 10 15

<210> 2

<211> 22

<212> PRT

<213> Pichia methanolica

<220>

<221> MISC_FEATURE

<222> (12)..(12)

<223> wherein "X" equals any amino acid.

<220>

<221> MISC_FEATURE

<222> (19)..(20)

<223> wherein "X" equals any amino acid.

<400> 2

Lys Val Phe Phe Pro Ala Pro Glu Glu Tyr Glu Xaa Phe Val Val Leu
1 5 10 15

Phe Asn Xaa Xaa Phe Pro
20

<210> 3

<211> 19
 <212> PRT
 <213> Pichia methanolica

<400> 3

Lys Val Pro Gln Glu Leu Tyr Thr Asn Leu Gly Ser Ser Gly Leu Gln
 1 5 10 15

Ile Ser Lys

<210> 4
 <211> 8
 <212> PRT
 <213> Pichia methanolica

<400> 4

Lys Val Asp Asp Ala Leu Asp Gly
 1 5

<210> 5
 <211> 30
 <212> DNA
 <213> Pichia methanolica

<400> 5
 tgctcatgaa ttgggaaaaa gttccacaag

30

<210> 6
 <211> 31
 <212> DNA
 <213> Pichia methanolica

<400> 6
 ctcgatcct tataaaatta cagaatataa g

31

<210> 7
 <211> 1062
 <212> DNA
 <213> Pichia methanolica

<220>
 <221> CDS
 <222> (1)..(1059)

<400> 7
 atg aat tgg gaa aaa gtt cca caa gaa tta tac act cgt ttg ggc tct
 Met Asn Trp Glu Lys Val Pro Gln Glu Leu Tyr Thr Arg Leu Gly Ser
 1 5 10 15

48

tca ggt cta caa atc tcc aag att att gtt ggg tgt atg tca ttc ggt
 Ser Gly Leu Gln Ile Ser Lys Ile Ile Val Gly Cys Met Ser Phe Gly
 20 25 30

96

acc aaa gca tgg gga ggt gat tgg gtt ttg gag gat gag gat gag atc	144
Thr Lys Ala Trp Gly Gly Asp Trp Val Leu Glu Asp Glu Asp Glu Ile	
35 40 45	
ttt gcg att atg aaa aag gct tat gat caa ggt atc aga act ttt gac	192
Phe Ala Ile Met Lys Lys Ala Tyr Asp Gln Gly Ile Arg Thr Phe Asp	
50 55 60	
act gct gac tct tat tct aat ggt gtt tct gaa aga ctc tta ggt aaa	240
Thr Ala Asp Ser Tyr Ser Asn Gly Val Ser Glu Arg Leu Leu Gly Lys	
65 70 75 80	
ttc att aga aag tac aac att gat aga tct aag ctt gtt att ttg act	288
Phe Ile Arg Lys Tyr Asn Ile Asp Arg Ser Lys Leu Val Ile Leu Thr	
85 90 95	
aag gtt ttt ttc cca gct cct gaa gaa tat gag tcg ttt agc ttc ttt	336
Lys Val Phe Phe Pro Ala Pro Glu Glu Tyr Glu Ser Phe Ser Phe Phe	
100 105 110	
aat cat aat ttc cct ggt cac gag ttg gtc aac aga agt ggc tta tcg	384
Asn His Asn Phe Pro Gly His Glu Leu Val Asn Arg Ser Gly Leu Ser	
115 120 125	
aga aaa cat att ttg gac tct gct gct gcc tct gtt gag aga tta ggc	432
Arg Lys His Ile Leu Asp Ser Ala Ala Ala Ser Val Glu Arg Leu Gly	
130 135 140	
acc tat atc gat gta cta caa att cat aga tat gat cca aat acc cct	480
Thr Tyr Ile Asp Val Leu Gln Ile His Arg Tyr Asp Pro Asn Thr Pro	
145 150 155 160	
gct gaa gaa acc atg gaa gct ttg aat gat tgt att aaa caa ggt tta	528
Ala Glu Glu Thr Met Glu Ala Leu Asn Asp Cys Ile Lys Gln Gly Leu	
165 170 175	
acc aga tac att gga gca tct acc atg aga gcc tat caa ttc atc aag	576
Thr Arg Tyr Ile Gly Ala Ser Thr Met Arg Ala Tyr Gln Phe Ile Lys	
180 185 190	
tat caa aac gtt gct gag aaa cat ggg tgg gca aag ttc atc tcg atg	624
Tyr Gln Asn Val Ala Glu Lys His Gly Trp Ala Lys Phe Ile Ser Met	
195 200 205	
caa agc tac tac agt tta ctt tac cgt gaa gaa gaa gca gaa cta att	672
Gln Ser Tyr Tyr Ser Leu Leu Tyr Arg Glu Glu Glu Ala Glu Leu Ile	
210 215 220	
gca tac tgt aat gaa act ggt gtt ggg tta atc cca tgg tca cca aac	720
Ala Tyr Cys Asn Glu Thr Gly Val Gly Leu Ile Pro Trp Ser Pro Asn	
225 230 235 240	
gct ggt gga ttc tta acc aga cca gta tcc aag caa gac act gcg aga	768
Ala Gly Gly Phe Leu Thr Arg Pro Val Ser Lys Gln Asp Thr Ala Arg	
245 250 255	

agt gca agt ggg gct gct gcg tta tat ggt cta gaa cct ttc agt gag	816
Ser Ala Ser Gly Ala Ala Ala Leu Tyr Gly Leu Glu Pro Phe Ser Glu	
260 265 270	
gct gat aag gct att att gac agg gtt gaa gag tta tca aag aaa aag	864
Ala Asp Lys Ala Ile Ile Asp Arg Val Glu Glu Leu Ser Lys Lys Lys	
275 280 285	
gga gtt tct atg gct agt gtc gct tta gct tgg gtt att agt aag aac	912
Gly Val Ser Met Ala Ser Val Ala Leu Ala Trp Val Ile Ser Lys Asn	
290 295 300	
agt tgg cca att att ggt ttc agt aag cct gga agg gtt gat gat gct	960
Ser Trp Pro Ile Ile Gly Phe Ser Lys Pro Gly Arg Val Asp Asp Ala	
305 310 315 320	
tta gat ggt ttc aag ttg aag cta acc gaa gag gac atc aaa ttc tta	1008
Leu Asp Gly Phe Lys Leu Lys Leu Thr Glu Glu Asp Ile Lys Phe Leu	
325 330 335	
gaa gag cct tat gtt cca aaa cct ttg cct cgc tta tat tct gta att	1056
Glu Glu Pro Tyr Val Pro Lys Pro Leu Pro Arg Leu Tyr Ser Val Ile	
340 345 350	
tta taa	1062
Leu	

<210> 8
 <211> 353
 <212> PRT
 <213> Pichia methanolica

<400> 8

Met Asn Trp Glu Lys Val Pro Gln Glu Leu Tyr Thr Arg Leu Gly Ser
1 5 10 15

Ser Gly Leu Gln Ile Ser Lys Ile Ile Val Gly Cys Met Ser Phe Gly
20 25 30

Thr Lys Ala Trp Gly Gly Asp Trp Val Leu Glu Asp Glu Asp Glu Ile
35 40 45

Phe Ala Ile Met Lys Lys Ala Tyr Asp Gln Gly Ile Arg Thr Phe Asp
50 55 60

Thr Ala Asp Ser Tyr Ser Asn Gly Val Ser Glu Arg Leu Leu Gly Lys
65 70 75 80

Phe Ile Arg Lys Tyr Asn Ile Asp Arg Ser Lys Leu Val Ile Leu Thr

85

90

95

Lys Val Phe Phe Pro Ala Pro Glu Glu Tyr Glu Ser Phe Ser Phe Phe
 100 105 110

Asn His Asn Phe Pro Gly His Glu Leu Val Asn Arg Ser Gly Leu Ser
 115 120 125

Arg Lys His Ile Leu Asp Ser Ala Ala Ala Ser Val Glu Arg Leu Gly
 130 135 140

Thr Tyr Ile Asp Val Leu Gln Ile His Arg Tyr Asp Pro Asn Thr Pro
 145 150 155 160

Ala Glu Glu Thr Met Glu Ala Leu Asn Asp Cys Ile Lys Gln Gly Leu
 165 170 175

Thr Arg Tyr Ile Gly Ala Ser Thr Met Arg Ala Tyr Gln Phe Ile Lys
 180 185 190

Tyr Gln Asn Val Ala Glu Lys His Gly Trp Ala Lys Phe Ile Ser Met
 195 200 205

Gln Ser Tyr Tyr Ser Leu Leu Tyr Arg Glu Glu Glu Ala Glu Leu Ile
 210 215 220

Ala Tyr Cys Asn Glu Thr Gly Val Gly Leu Ile Pro Trp Ser Pro Asn
 225 230 235 240

Ala Gly Gly Phe Leu Thr Arg Pro Val Ser Lys Gln Asp Thr Ala Arg
 245 250 255

Ser Ala Ser Gly Ala Ala Ala Leu Tyr Gly Leu Glu Pro Phe Ser Glu
 260 265 270

Ala Asp Lys Ala Ile Ile Asp Arg Val Glu Glu Leu Ser Lys Lys Lys
 275 280 285

Gly Val Ser Met Ala Ser Val Ala Leu Ala Trp Val Ile Ser Lys Asn
 290 295 300

Ser Trp Pro Ile Ile Gly Phe Ser Lys Pro Gly Arg Val Asp Asp Ala
 305 310 315 320

Leu Asp Gly Phe Lys Leu Lys Leu Thr Glu Glu Asp Ile Lys Phe Leu
325 330 335

Glu Glu Pro Tyr Val Pro Lys Pro Leu Pro Arg Leu Tyr Ser Val Ile
340 345 350

Leu